

What is claimed is:

1. A method comprising:

identifying a variable associated with one or more machine readable instructions;

determining a predicted value of the variable based on a pattern;

using the predicted value of the variable based on the pattern to generate a value prediction instruction to predict a run-time value; and

combining the value prediction instruction with the one or more machine readable instructions.
2. A method as defined in claim 1, further comprising:

determining if the run-time value matches the predicted value; and

generating a value correction instruction to correct the run-time value if the run-time value does not match the predicted value.
3. A method as defined in claim 2, further comprising combining the value correction instruction with the one or more machine readable instructions to be executed subsequent to an invocation of a speculative parallel thread.
4. A method as defined in claim 1, further comprising combining the value prediction instruction with the one or more machine readable instructions to be executed prior to an invocation of a speculative parallel thread.
5. A method as defined in claim 1, wherein the variable is associated with a data dependency.

6. A method as defined in claim 1, wherein the one or more machine readable instructions comprises an internal representation.

7. A method as defined in claim 1, wherein the one or more machine readable instructions comprises a source code file.

8. A method as defined in claim 6, wherein the source code file comprises a high-level instruction.

9. A method as defined in claim 1, wherein the pattern comprises a predetermined pattern.

10. A method as defined in claim 9, wherein the predetermined pattern comprises at least one of a constant pattern, a last-value pattern, and a constant-stride pattern.

11. A method as defined in claim 10, wherein the constant pattern is based on a most frequently occurring value.

12. A method as defined in claim 1, wherein the predicted value is created by a profiling technique.

13. An apparatus comprising:
- a memory; and
- a processor coupled to the memory and configured to:
- identify a variable associated with one or more machine readable instructions;
 - determine a predicted value of the variable based on a pattern;
 - use the predicted value of the variable based on the pattern to generate a value prediction instruction to predict a run-time value; and
 - combine the value prediction instruction with the one or more machine readable instructions.
14. An apparatus as defined in claim 13, wherein the processor is further configured to:
- determine if the run-time value matches the predicted value; and
 - generate a value correction instruction to correct the run-time value if the run-time value does not match the predicted value.
15. An apparatus as defined in claim 14, wherein the processor is further configured to combine the value correction instruction with the one or more machine readable instructions to be executed subsequent to an invocation of a speculative parallel thread.
16. An apparatus as defined in claim 13, wherein the processor is further configured to combine the value prediction instruction with the one or more machine readable instructions to be executed prior to an invocation of a speculative parallel thread.

17. An apparatus as defined in claim 13, wherein the variable is associated with a data dependency.

18. An apparatus as defined in claim 13, wherein the one or more machine readable instructions comprises an internal representation.

19. An apparatus as defined in claim 13, wherein the one or more machine readable instructions comprises a source code file.

20. An apparatus as defined in claim 18, wherein the source code file comprises a high-level instruction.

21. An apparatus as defined in claim 13, wherein the pattern comprises a predetermined pattern.

22. An apparatus as defined in claim 21, wherein the predetermined pattern comprises at least one of a constant pattern, a last-value pattern, and a constant-stride pattern.

23. An apparatus as defined in claim 22, wherein the constant pattern is based on a most frequently occurring value.

24. An apparatus as defined in claim 13, wherein the predicted value is created by a profiling technique.

25. A machine readable medium having instructions stored thereon that, when executed, cause a machine to:

- identify a variable associated with one or more machine readable instructions;
- determine a predicted value of the variable based on a pattern;
- use the predicted value of the variable based on the pattern to generate a value prediction instruction to predict a run-time value; and
- combine the value prediction instruction with the one or more machine readable instructions.

26. A machine readable medium as defined in claim 25, having instructions stored thereon that, when executed, cause the machine to:

- determine if the run-time value matches the predicted value; and
- generate a value correction instruction to correct the run-time value if the run-time value does not match the predicted value.

27. A machine readable medium as defined in claim 26, having instructions stored thereon that, when executed, cause the machine to combine the value correction instruction with the one or more machine readable instructions to be executed subsequent to an invocation of a speculative parallel thread.

28. A machine readable medium as defined in claim 25, having instructions stored thereon that, when executed, cause the machine to combine the value prediction instruction with the one or more machine readable instructions to be executed prior to an invocation of a speculative parallel thread.

29. A machine readable medium as defined in claim 25, wherein the variable is associated with a data dependency.

30. A machine readable medium as defined in claim 25, wherein the one or more machine readable instructions comprises an internal representation.

31. A machine readable medium as defined in claim 25, wherein the one or more machine readable instructions comprises a source code file.

32. A machine readable medium as defined in claim 30, wherein the source code file comprises a high-level instruction.

33. A machine readable medium as defined in claim 25, wherein the pattern comprises a predetermined pattern.

34. A machine readable medium as defined in claim 33, wherein the predetermined pattern comprises at least one of a constant pattern, a last-value pattern, and a constant-stride pattern.

35. A machine readable medium as defined in claim 34, wherein the constant pattern is based on a most frequently occurring value.

36. A machine readable medium as defined in claim 25, wherein the predicted value is created by a profiling technique.